

Flight Scientist Report

Tuesday 09/22/2020 ACTIVATE RF37

Flight Type: Process Study Flight: OXANA

Flight Route:

Falcon = KLFI KECG OXANA ZZTOP 3356N/07314W 3400N/07300W 3404N/07246W  
3356N/07314W 3404N/07246W 3356N/07314W 3404N/07246W ZZTOP OXANA KECG  
KLFI

UC-12 = KLFI KECG OXANA ZZTOP 3400N07300W 3404N/07246W 3410N/07226W  
3352N/07225W 3336N/07238W 3330N/07259W 3335N/07320W ZZTOP 3408N/07335W  
3424N/07322W 3430N/07301W 3425N/07240W 3410N/07226W 3400N07300W ZZTOP  
OXANA KECG KLFI

Special Notes:

Excellent day for process study flight near Oxana with conditions similar to winter Cold Air Outbreaks instead it won't be as cold.

Today is a good day to contrast with yesterday as yesterday had relatively lower Nd whereas today had much higher Nd (> 2500) with many small drops (i.e., couldn't get cloud water cause drops were likely so small). Nd lower to southwest part of flight and increased a lot to north. Significant gradients in aerosol today.

**King Air**

7 dropsondes

**Falcon**

Had better coincidence on the second half of flight.

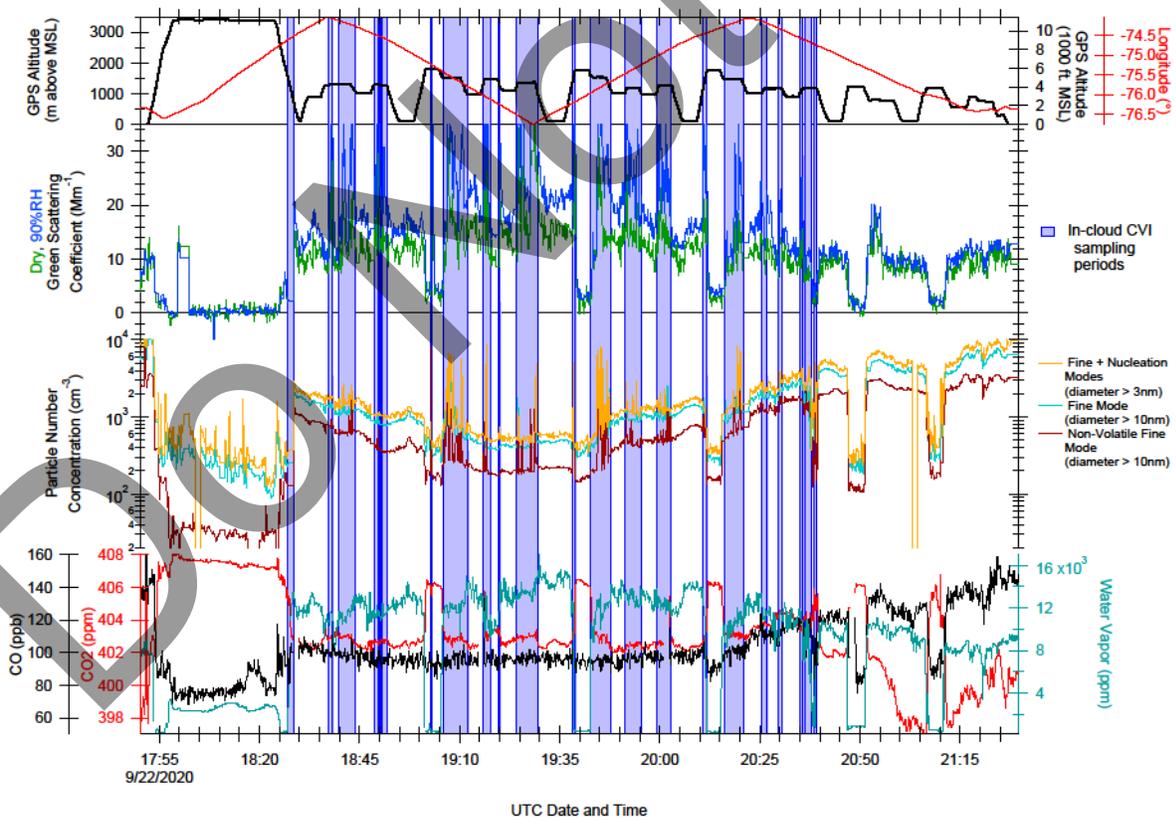
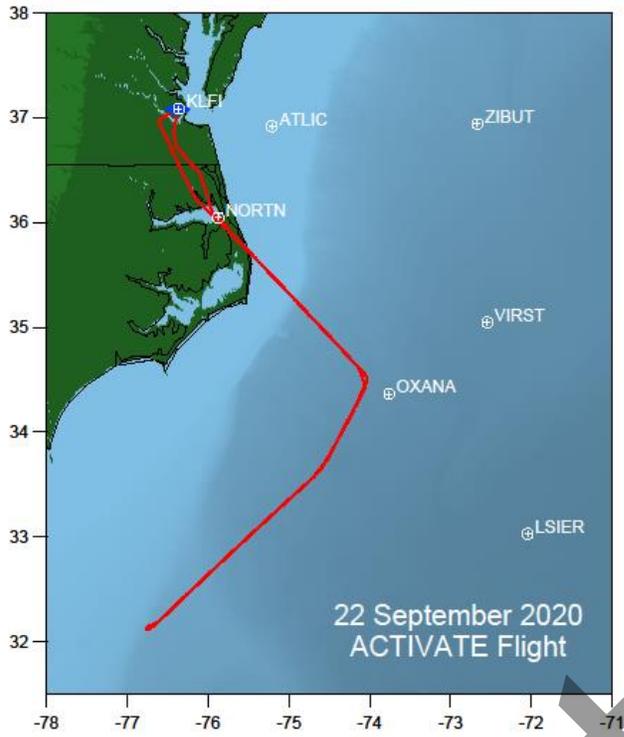
Delay in descending initially due to ATC issues

APU worked well and temperature was fine today

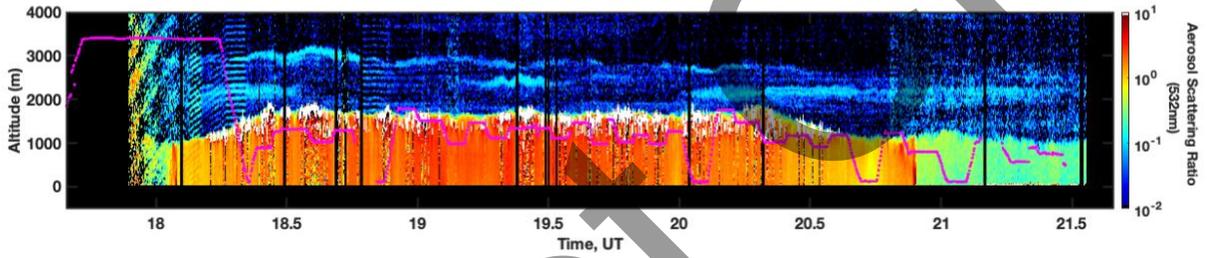
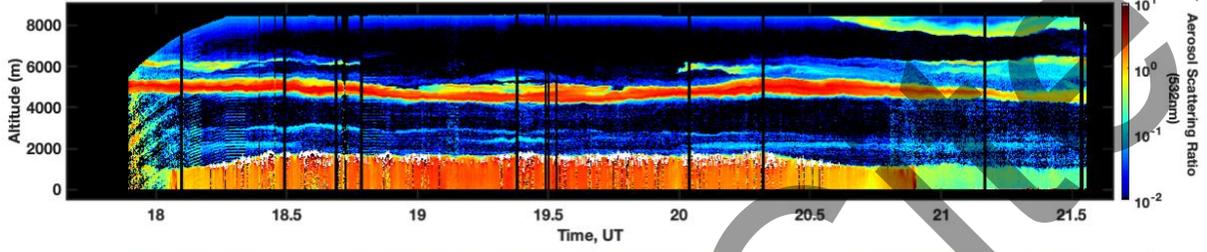
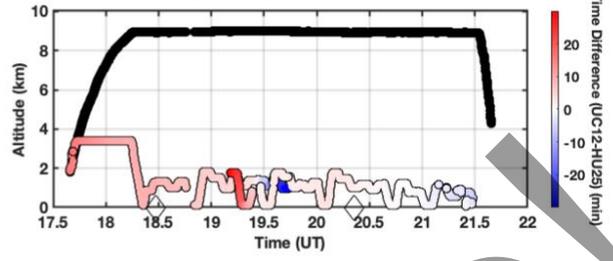
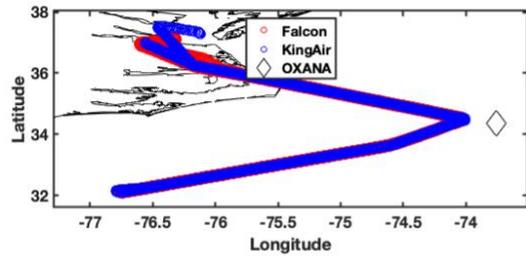
CCN looked good today after some modifications that Eddie did

Around 4 full cloudy modules – last one was cut short a bit

Rich Moore Quicklook Images:



20200922 - ACTIVATE - KingAir and Falcon flight tracks

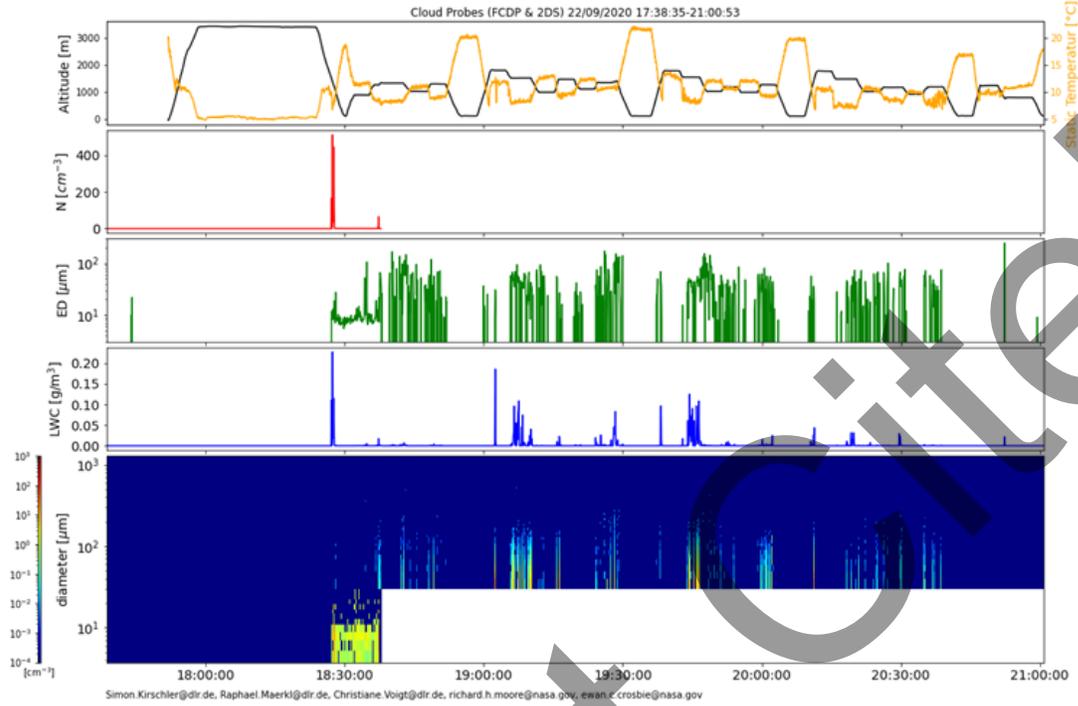


DOI

# Quicklook ACTIVATE Cloud Probes (FCDP & 2DS)

preliminary data, only for quicklook use

Simon Kirschler, Raphael Märkl, Christiane Voigt, Richard Moore, Ewan Crosbie



FCDP not operational after ~ 18:40

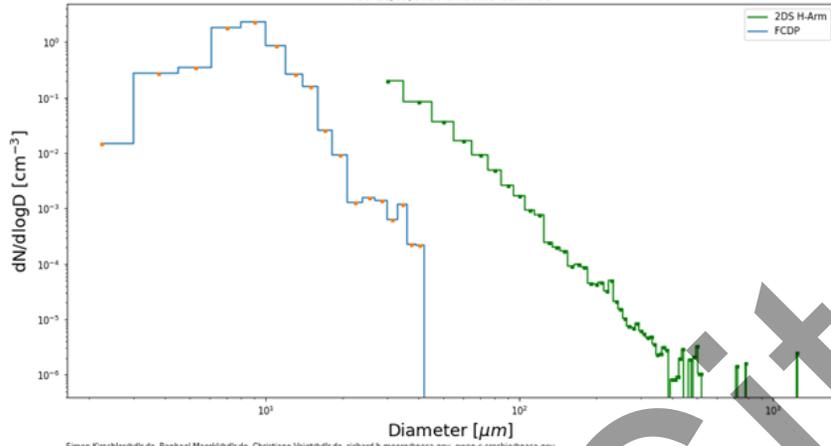
# PSD ACTIVATE

preliminary data, only for quicklook use

Simon Kirschler, Raphael Märki, Christiane Voigt, Richard Moore, Ewan Crosbie



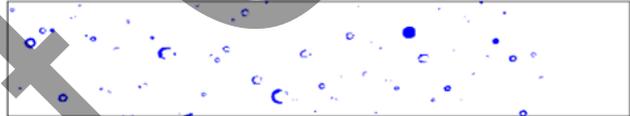
PSD 22/09/2020 17:38:35-21:00:53



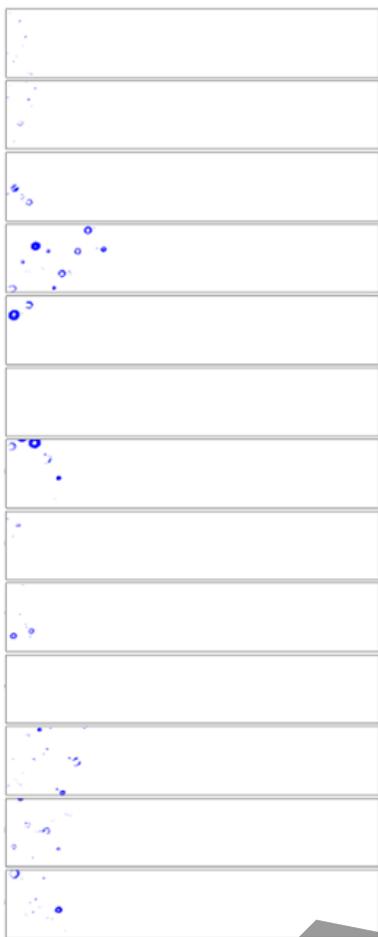
18:27



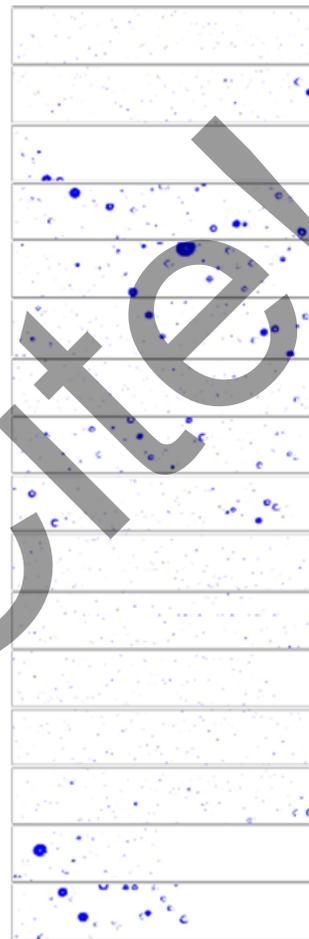
18:37



19:26



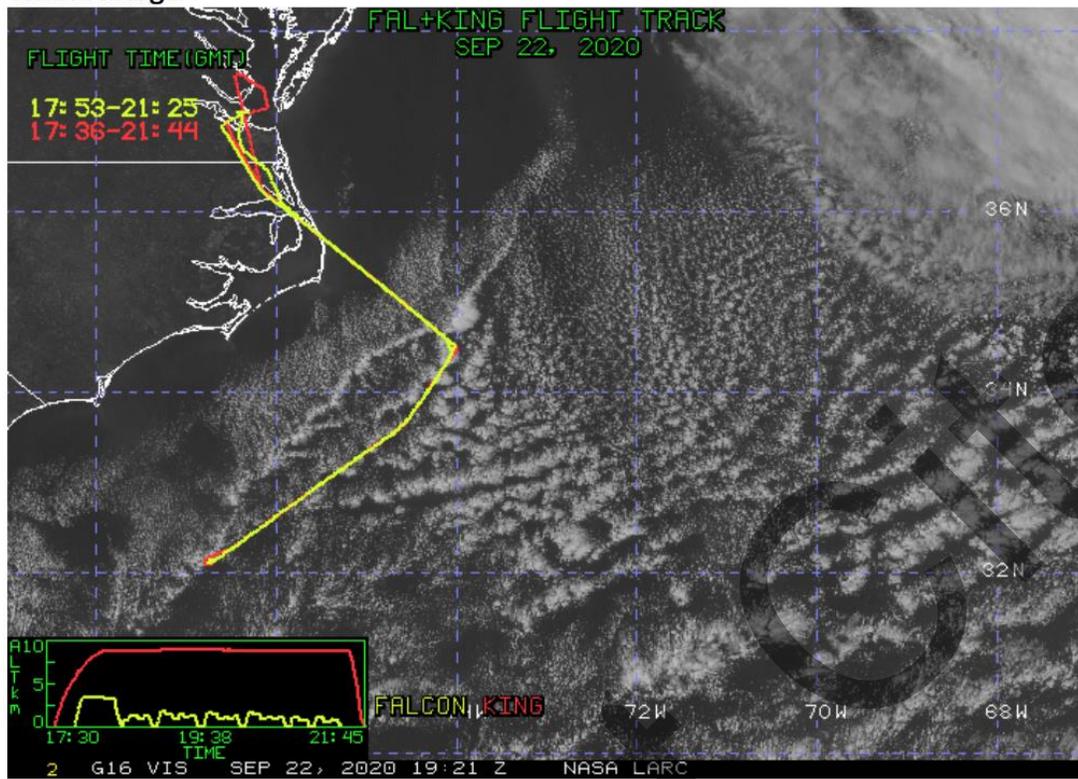
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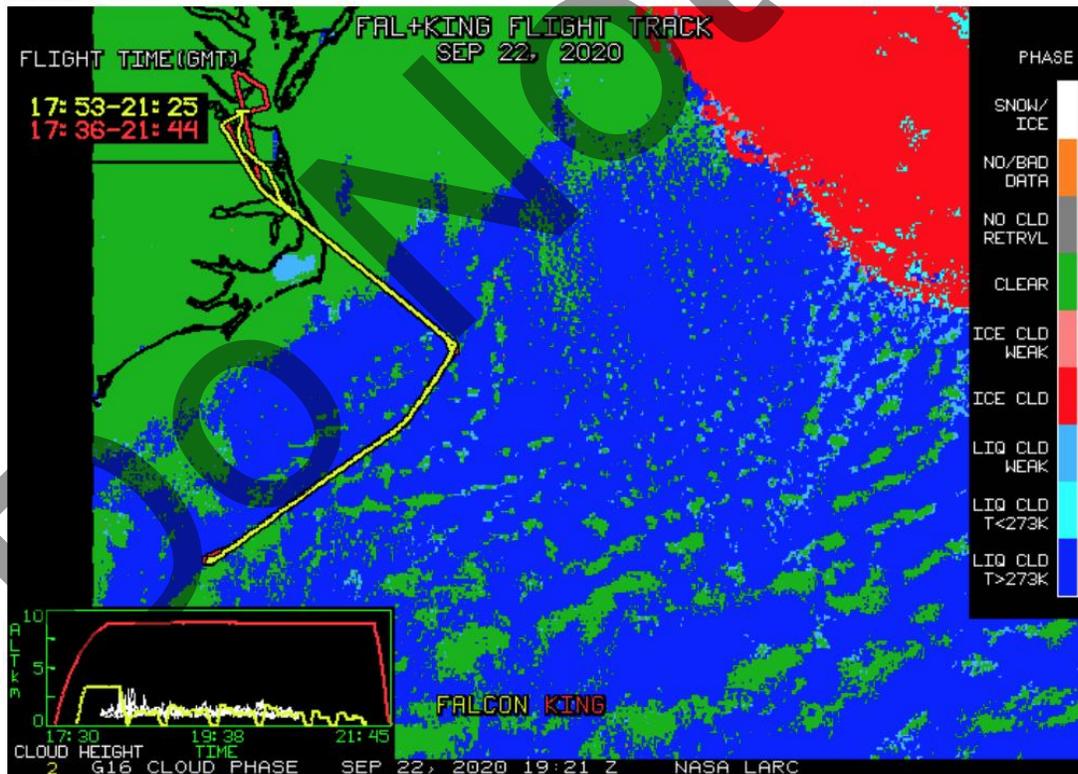
Many images where droplets only occur on the left side. Possibly dirty window? Strangely, images appear at a later time where the entire image is visible again.

NASA-LaRC Clouds Group GOES-16 Quicklook Images for Flight 37, 1921 UTC Sep 22, 2020

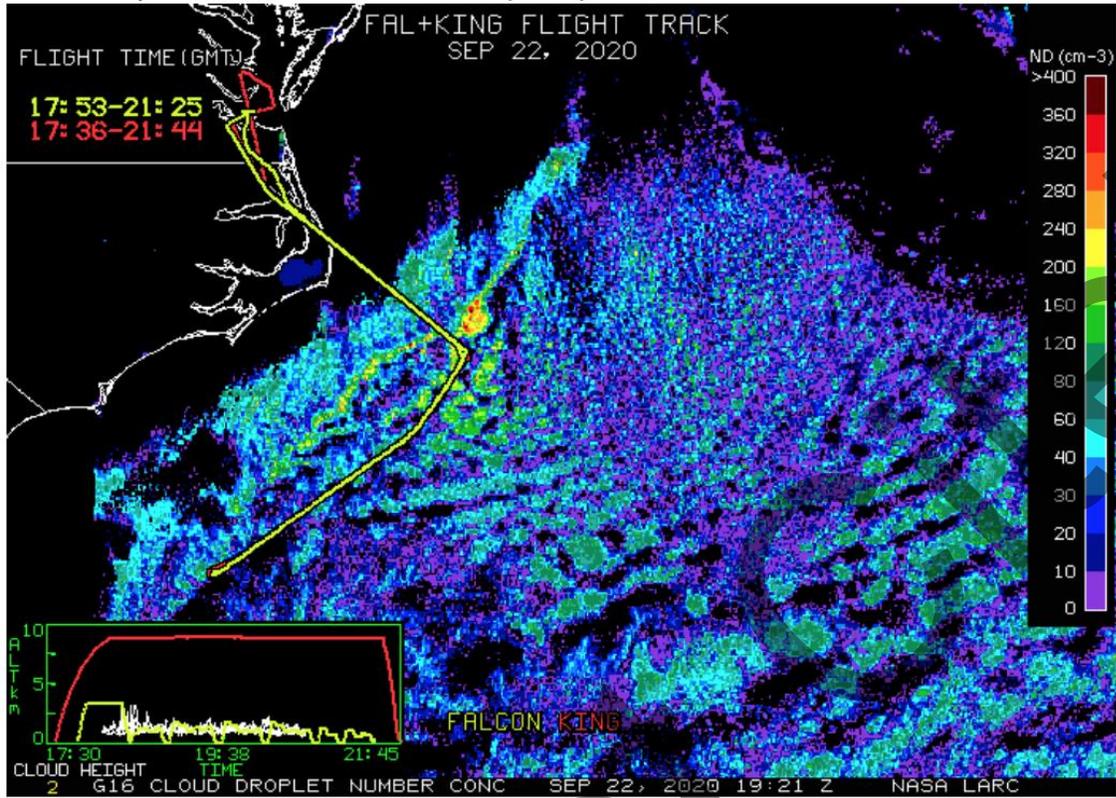
Visible Image



Cloud Phase



Cloud Droplet Number Concentration (cm-3)



Cloud-Top Height (Kft-ASL)

